

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 01-175250

(43)Date of publication of application : 11.07.1989

(51)Int.Cl.

H01L 23/50

(21)Application number : 62-335473

(71)Applicant : SONY CORP

(22)Date of filing : 28.12.1987

(72)Inventor : KOJIMA AKIRA
NAKANO SEIJI

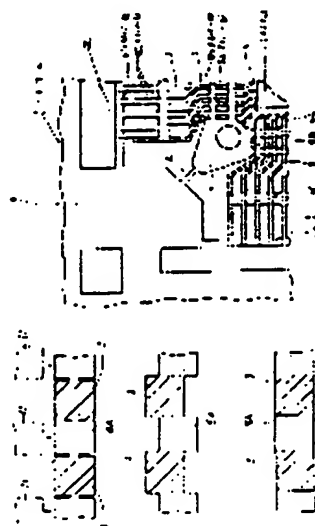
(54) LEAD FRAME AND SEMICONDUCTOR DEVICE USING IT

(57)Abstract:

PURPOSE: To prevent a punch from being worn away by a method wherein a tie-bar part is pushed out from one side face without being stamped completely, its one part is cut and said pushed-out part is shaped by being pushed back from the other side face so that the tie-bar part can be separated and removed, e.g., by being pressed comparatively slightly by using the punch.

CONSTITUTION: A square die pad 2 is arranged in the central part of a lead frame 1; support bars 4 are stretched in diagonal directions from its four corners; tip parts are shaped collectively together with a lead frame disk 1a; intermediate parts act as reinforcing sheets 5.

Ends of lead parts 3 face side edges of the die pad 2; tie-bar parts 6A, 6B, 6C, 6D are shaped in parallel in such a way that intermediate parts or end parts of the lead parts 3 are interlinked with one another. The tie-bar parts 6A, 6B, 6C, 6D are pushed out by about one-third by using a metal mold when the lead frame is formed; then, when they are pushed back to original positions, the intermediate parts are not cut; both upper parts and lower parts are cut. A chip is fixed to the die pad 2; wires are bonded to the lead parts 3; a resin is molded. After the resin has been solidified, prescribed tie-bar parts are pressed slightly by using punches 11, and leads 3W, 3 can be separated easily.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the

examiner's decision of rejection or application
converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of
rejection]

[Date of requesting appeal against examiner's
decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office